

# Chemistry (2012-2013)

## Professional Emphasis

(This emphasis offers excellent preparation for bachelor level employment and entry into graduate level and professional schools)

This is a **general curriculum** guide and is not applicable to every student and is not a replacement for meeting with your advisor. Many upper level chemistry courses are offered every other year. It is important to consult the annual class schedule and meet with your advisor when scheduling.

### -Student needs MTH 110 prerequisite-

Fall Semester – Year One	credits	Winter Semester – Year One	credits
MTH 110: Algebra	4	CHM 115: Principles of Chemistry I ( <i>Gen Ed</i> )	5
WRT 150: Strategies in Writing	4	MTH 122: College Algebra ( <i>Gen Ed</i> )	3
Gen Ed.	3	MTH 123: Trigonometry	3
Gen Ed.	3	Gen Ed.	3
<b>Total</b>	<b>14</b>	<b>Total</b>	<b>14</b>
Spring Semester – Year One	credits	Summer Semester – Year One	credits
CHM 116: Principles of Chemistry II	5		
Fall Semester – Year Two	credits	Winter Semester – Year Two	credits
CHM 245: Principles of Organic I <sup>1</sup>	3	CHM 222: Quantitative Analysis	3
CHM 246: Principles of Organic I Lab	1	CHM 247: Principles of Organic II <sup>1</sup>	3
MTH 201: Calculus I	5	CHM 248: Principles of Organic II Lab	1
Gen Ed.	3	MTH 202: Calculus II	4
Gen Ed.	3	PHY 230: Principles of Physics I	5
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>16*</b>
Spring Semester – Year Two	credits	Summer Semester – Year Two	credits
MTH 203: Calculus III (recommended)	4		
Fall Semester – Year Three	credits	Winter Semester – Year Three	credits
CHM 353: Physical/Computational Chemistry Lab I	2	CHM 225: Instrumental Analysis I	3
CHM 356: Physical Chemistry I	4	CHM 355: Physical Chemistry Lab II (SWS) <sup>3</sup>	1
CHM 391: Chemistry Seminar I <sup>2</sup>	0	CHM 358: Physical Chemistry II	3
PHY 231: Principles of Physics II	5	CHM 391: Chemistry Seminar I <sup>2</sup>	1
Gen Ed.	3	Elective	3
Elective	1	Gen Ed. or Theme	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>14</b>
Fall Semester – Year Four	credits	Winter Semester – Year Four	credits
CHM 372: Inorganic Chemistry Lab Techniques	1	CHM 491: Chemistry Seminar II <sup>2</sup>	1
CHM 461: Biochemistry I	4	Upper-Level Chemistry Lab Elective <sup>4</sup>	2-3
CHM 471: Advanced Inorganic Chemistry (Capstone) <sup>6</sup>	3	Chemistry Non-Lab Elective <sup>5</sup>	3
CHM 491: Chemistry Seminar II <sup>2</sup>	0	Elective	3
Upper-Level Chemistry Lab Elective <sup>4</sup>	2-3	Gen Ed. or Theme	3
Gen Ed. or Theme	3	Gen Ed. or Theme	3
<b>Total</b>	<b>16-17*</b>	<b>Total</b>	<b>15-16*</b>

\*The block tuition rate is for 12-15 credits. You will pay additional tuition for any credits over 15.

#### Notes:

<sup>1</sup> CHM 241 and CHM 242 may substitute for CHM 245/246/247/248. However, students must also take CHM 249 plus 28 additional lab-hour electives.

<sup>2</sup> Required of all chemistry majors. Two semesters of seminar are required for one credit. Students should register for zero credits in their first semester and one credit in their second semester.

<sup>3</sup> CHM 455 may be taken instead of CHM 355. The additional 28 hours of lab count towards upper-level lab requirement.

<sup>4</sup> You must chose lab electives, totaling 80 hours, from the following: CHM 322 (42), 344 (42), 425 (28), 462 (84), 452 (70), 455 (28), or 499 (84). Numbers in ( ) are the amount of hours for each course.

<sup>5</sup> Choose one course from the following non-lab classes: CHM 441, 463, 473, or 442.

<sup>6</sup> Offered Fall only.

#### Special Notes:

A. This is a **general curriculum** guide and will not work for everyone, especially those students who have AP, IB or CLEP credit. For students without high school chemistry, CHM 109 is strongly encouraged.

B. Courses that have (*Gen Ed*) written after them are classes that are required in the major and also fulfill a section of the general education program.

C. Students must complete a total of two courses with an SWS attribute.

It is imperative to meet with your faculty advisor or an advisor in the CLAS Academic Advising Center early in your career.

The CLAS Academic Advising Center is located in C-1-140 MAK, 616-331-8585.

Online at: <http://www.gvsu.edu/clasadvising>

Prepared by CLAS Academic Advising Center – 1/23/12